

## **ABSTRACT**

**Background and objective:** Oral squamous cell carcinoma (OSCC) is the sixth most common malignancy in the world and ranks as first in males in the Indian subcontinent, accounting for 3–5% of all malignancies in both sexes. Over 90% of all oral carcinomas are classified as oral squamous cell carcinoma, which remains a challenging oncology problem. Although early-stage oral squamous cell carcinoma can be treated or cured, the prognosis for advanced oral squamous cell carcinoma (stage III and IV) is poor. Studies of epithelial malignancies have consistently shown that the transition from an epithelial cell to a mesenchymal cell, as characterised by the loss of E-cadherin expression, the aberrant expression of E-cadherin/ $\beta$ -catenin complexes, or the gain of vimentin expression, is correlated with the conversion of early-stage tumours to invasive malignancies. Therefore, it is important to evaluate the role of cell adhesion molecules like  $\beta$ -catenin and E-cadherin along with vimentin to predict the risk of invasion and tumour metastasis of OSCC. In this study, we try to observe the immunohistochemical expression of vimentin, and E-cadherin in oral squamous cell carcinoma

## **AIMS AND OBJECTIVES**

1. To identify the clinicopathological features including age, sex, risk factors, tumor location, lymph node metastasis and grade of tumor of oral SCC.
2. To study the expression of immunological markers E-cadherin and vimentin and to evaluate their expression with respect to clinicopathological profile..

## **MATERIAL AND METHODOLOGY**

A total of 50 cases of oral squamous cell carcinoma were included in the study. Representative sections were taken and hematoxylin and eosin staining was done. Immunohistochemistry was performed with E cadherin and vimentin. Interpretation was done depending on their high, low and negative expression. Correlations with age, sex, location, grade of the tumor and lymph node metastasis corresponding with markers were done and statistically analysed.

## **RESULTS**

The expression of e cadherin (p value 0.002) and vimentin (p value <0.001) was significant with increasing grade of the tumor. There was loss of expression of e cadherin and increased expression of vimentin in poorly differentiated tumors and those with invasion. Similarly when the lymph node status was positive the expression of vimentin (p value 0.0039) was significant compared to e cadherin, thus proving their inverse association for the progressing epithelial mesenchymal transition.

## **CONCLUSION**

- There was 100% positivity of vimentin in poorly differentiated tumors with a p value of 0.002 whereas
- In cases with lymph node positivity 57.14% were vimentin positive when compared with 26.14% of e cadherin positivity
- In well differentiated tumors 70% were e cadherin positive and only 26% were vimentin positive. Henceforth proving the association of e cadherin and vimentin in predicting the risk for invasion and metastasis.

**key words :** Squamous cell carcinoma, E-cadherin, Vimentin.